



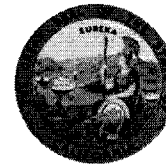
State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0856

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE	CA	CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/10/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0856-01	Sample ID: R 94042	Time Collected: 10/8/2013 12:00	Sampling Point: Spiny Lobster	
	Sample Type: Fish/Shellfish			
Dry Wt/Wet Wt		0.261		
K-40	HASL Ga-01-R	15.1 +/- 0.362	0.382	pCi/g dry wt.



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Drinking Water and Radiation Laboratory Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>10-10-13</b>	Lab No. (Leave Blank) <b>13-0856</b>
	Date & Time Sampled <b>10-8-13 12:00</b>	Serial Number <b>R 94042</b>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_    ☐ Milk    ☐ Soil/Sediment  
 Starting: \_\_\_\_\_    ☐ Wipes    ☒ Biota (Type): **Spiny lobster**  
 Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: \_\_\_\_\_  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha    ☐ Gross Beta    ☐ Gamma Scan  
☐ Total Uranium    ☐ Total Beta (LSC)    ☐ NORM (Gamma)  
☐ Total Radium    ☐ Tritium (<sup>3</sup>H)    ☐ Isotopic Americium / Curium  
☐ Radium-226    ☐ Carbon-14    ☐ Isotopic Plutonium  
☐ Radium-228    ☐ Iodine-131    ☐ Isotopic Thorium  
☐ Radon-222    ☐ Strontium-89, 90    ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_    ☐ Nickel-63    ☐ Iron-55

## CHAIN OF CUSTODY

- |    |                                    |                           |                                    |
|----|------------------------------------|---------------------------|------------------------------------|
| 1. | Date _____                         | Name (Print) _____        | Date _____                         |
|    | Time Custody Received _____        | Organization _____        | Signature _____                    |
| 2. | Date _____                         | Name (Print) _____        | Date _____                         |
|    | Time Custody Received _____        | Organization _____        | Signature _____                    |
| 3. | Date <b>10-10-13</b>               | Name (Print) <b>VA</b>    | Date _____                         |
|    | Time Custody Received <b>15:45</b> | Organization <b>DWRLB</b> | Signature <b>Victoria M. Ellis</b> |
|    |                                    |                           | Time Custody Released _____        |

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

- ☐ Acceptable    ☐ Broken Container    ☐ Leaked in Transit    ☐ Improper Container  
☐ Holding Time Exceeded    ☐ Sample Not Cooled    ☒ Insufficient Sample

## B. Preservatives/Carriers:

- ☐ Added While Sampling    ☐ Added in Laboratory    ☐ Not Added    ☐ Not Applicable



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

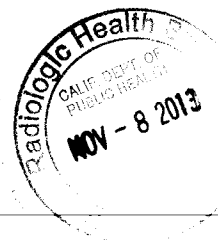
Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0858

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/10/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0858-01	Sample ID: R 94040	Time Collected: 10/8/2013 10:50	Sampling Point: Sheephead	
	Sample Type: Fish/Shellfish			
Dry Wt/Wet Wt		0.227		
K-40	HASL Ga-01-R	18.1 +/- 0.412	0.363	pCi/g dry wt



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Drinking Water and Radiation Laboratory Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>10-10-13</b>	Lab No. (Leave Blank) <b>130858</b>
	Date & Time Sampled <b>10-8-13 10:50</b>	Serial Number <b>R 94040</b>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
Finishing: \_\_\_\_\_    ☐ Milk    ☒ Soil/Sediment  
Starting: \_\_\_\_\_    ☐ Wipes    ☒ Biota (Type): **Sheephead**  
Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: \_\_\_\_\_  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

## CHAIN OF CUSTODY

- |    |                                    |                             |                                 |                             |
|----|------------------------------------|-----------------------------|---------------------------------|-----------------------------|
| 1. | Date _____                         | Name (Print) _____          | Signature _____                 | Date _____                  |
|    | Time Custody Received _____        | Organization _____          |                                 | Time Custody Released _____ |
| 2. | Date _____                         | Name (Print) _____          | Signature _____                 | Date _____                  |
|    | Time Custody Received _____        | Organization _____          |                                 | Time Custody Released _____ |
| 3. | Date <b>10-10-13</b>               | Name (Print) <b>UA</b>      | Signature <b>Victoria M. Gh</b> | Date _____                  |
|    | Time Custody Received <b>15:45</b> | Organization <b>DWR L B</b> |                                 | Time Custody Released _____ |

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |

## B. Preservatives/Carriers:

- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0857

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/10/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0857-01	Sample ID: R 94041	Time Collected: 10/8/2013 10:15	Sampling Point: Calif Mussel	
	Sample Type: Fish/Shellfish			
Dry Wt/Wet Wt		0.117		
K-40	HASL Ga-01-R	10.9 +/- 0.368	0.899	pCi/g dry wt



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

## Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, G164  
Richmond, CA 94804  
510-620-2911

Date Received

10-10-13

Lab No. (Leave Blank)

13-0887

Date &amp; Time Sampled

10-8-13 10:15

Serial Number

R 94041

## Collector Information

Name:  
Dept./Branch:  
Address:

RHM

## Reporting Information

Name:  
Dept./Branch:  
Address:

Telephone No.:

Telephone No.:

## Sample Information

System Name / Facility:  
Sampling Point (s):

Song C

## Billing Agency

☐ DWFOB ( ) ☐ RHB ☐ RWQCB ( ) ☐ DTSC  
☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG  
☐ EMB ☐ Other (Specify) \_\_\_\_\_

System No.:

## TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater  
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

☐ Air Filters

Date/Time

☐ Seawater☐ Sludge (Semi-solid Samples)

Finishing: \_\_\_\_\_

☐ Milk☐ Soil/Sediment

Starting: \_\_\_\_\_

☐ Wipes☒ Biota (Type): cal musselNet (M<sup>3</sup>) \_\_\_\_\_☐ Radon Canister☐ Other: \_\_\_\_\_☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan  
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)  
☐ Total Radium ☐ Tritium (<sup>3</sup>H) ☐ Isotopic Americium / Curium  
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium  
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium  
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_ ☐ Nickel-63 ☐ Iron-55

## CHAIN OF CUSTODY

1. Date \_\_\_\_\_ Name (Print) \_\_\_\_\_ Date \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature \_\_\_\_\_ Time Custody Released \_\_\_\_\_  
2. Date \_\_\_\_\_ Name (Print) \_\_\_\_\_ Date \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature \_\_\_\_\_ Time Custody Released \_\_\_\_\_  
3. Date 10-10-13 Name (Print) JA Date \_\_\_\_\_  
15:45 Name (Print) DWRLB Date \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature [Signature] Time Custody Released \_\_\_\_\_

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container  
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

## B. Preservatives/Carriers:

☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable



State of California - Health and Human Services Agency  
California Department of Public Health



Drinking Water and Radiation Laboratory Branch

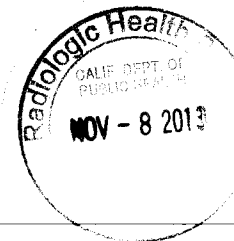
850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940

**FINAL Analysis Results Report for Task ID. 13-0764**

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS A / 3rd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/3/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0764-01	Sample ID: R 94036	Time Collected: 10/1/2013 15:45	Sampling Point: Spiny Lobster	
	Sample Type: Biota			
Dry Wt/Wet Wt		0.255		
K-40	HASL Ga-01-R	11.4 +/- 0.290	0.344	pCi/g dry wt



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

**Drinking Water and Radiation Laboratory Branch**  
 850 Marina Bay Parkway, G164  
 Richmond, CA 94804  
 510-620-2911

Date Received

10-3-13

Lab No. (Leave Blank)

13-0764

Date &amp; Time Sampled

10-1-13 15:45

Serial Number

R 94036

## Collector Information

Name:  
 Dept./Branch:  
 Address:

RHM

Telephone No.:

## Sample Information

System Name / Facility:  
 Sampling Point (s):

Soups A

System No.:

## Reporting Information

Name:  
 Dept./Branch:  
 Address:

Telephone No.:

## Billing Agency

☐ DWFOB ( ) ☐ RHB ☐ RWQCB ( ) ☐ DTSC  
☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG  
☐ EMB ☐ Other (Specify) \_\_\_\_\_

## TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater  
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

☐ Air Filters

Date/Time

☐ Seawater☐ Sludge (Semi-solid Samples)

Finishing: \_\_\_\_\_

☐ Milk☐ Soil/Sediment

Starting: \_\_\_\_\_

☐ Wipes☐ Biota (Type): cat spiny lobsterNet (M<sup>3</sup>) \_\_\_\_\_☐ Radon Canister☐ Other: \_\_\_\_\_☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.): \_\_\_\_\_

☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan  
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)  
☐ Total Radium ☐ Tritium (<sup>3</sup>H) ☐ Isotopic Americium / Curium  
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium  
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium  
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_ ☐ Nickel-63 ☐ Iron-55

## CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____
2.	Date _____	Name (Print) _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____
3.	Date <u>10-3-13</u>	Name (Print) <u>UA</u>	Date _____
	Time Custody Received <u>11:00</u>	Organization <u>DWR/LB</u>	Signature <u>Victoria M. Pli</u>
			Time Custody Released _____

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container  
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

## B. Preservatives/Carriers:

☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable





State of California - Health and Human Services Agency

California Department of Public Health

## Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. 13-0763

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE	CA	CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS A / 3rd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 10/3/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0763-01	Sample ID: R 94035 Sample Type: Biota	Time Collected: 10/1/2013 12:00	Sampling Point: Mussels	
Dry Wt/Wet Wt		0.165		
K-40	HASL Ga-01-R	9.95 +/- 0.297	0.542	pCi/g dry wt



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

## Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, G164  
Richmond, CA 94804  
510-620-2911

Date Received

10-3-13

Lab No. (Leave Blank)

13-0763

Date &amp; Time Sampled

10-1-13 12:00

Serial Number

R 94035

## Collector Information

Name:  
Dept./Branch:  
Address:

Telephone No.:

## Reporting Information

Name:  
Dept./Branch:  
Address:

Telephone No.:

## Sample Information

System Name / Facility:  
Sampling Point (s):

Soup AC B

System No.:

## Billing Agency

☐ DWFOB ( ) ☐ RHB ☐ RWQCB ( ) ☐ DTSC  
☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG  
☐ EMB ☐ Other (Specify) \_\_\_\_\_

## TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water ☐ Groundwater ☐ Surface Water ☐ Wastewater  
☐ Raw ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

☐ Air Filters ☐ Seawater ☐ Sludge (Semi-solid Samples)  
Finishing: \_\_\_\_\_ Date/Time \_\_\_\_\_  
☐ Milk  
Starting: \_\_\_\_\_  
☐ Wipes ☐ Biota (Type): MUSSELS  
Net (M<sup>3</sup>) \_\_\_\_\_  
☐ Radon Canister ☐ Other: Shrimp  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha ☐ Gross Beta ☐ Gamma Scan  
☐ Total Uranium ☐ Total Beta (LSC) ☐ NORM (Gamma)  
☐ Total Radium ☐ Tritium (<sup>3</sup>H) ☐ Isotopic Americium / Curium  
☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium  
☐ Radium-228 ☐ Iodine-131 ☐ Isotopic Thorium  
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_ ☐ Nickel-63 ☐ Iron-55

## CHAIN OF CUSTODY

1. \_\_\_\_\_  
Date \_\_\_\_\_ Name (Print) \_\_\_\_\_ Date \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature \_\_\_\_\_ Time Custody Released \_\_\_\_\_  
2. \_\_\_\_\_  
Date \_\_\_\_\_ Name (Print) \_\_\_\_\_ Date \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature \_\_\_\_\_ Time Custody Released \_\_\_\_\_  
3. \_\_\_\_\_  
Date 10-3-13 Name (Print) VA Date \_\_\_\_\_  
11:00 \_\_\_\_\_ DWRLB \_\_\_\_\_  
Time Custody Received \_\_\_\_\_ Organization \_\_\_\_\_ Signature Nutona M. Ali Time Custody Released \_\_\_\_\_

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container  
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample

## B. Preservatives/Carriers:

☐ Added While Sampling ☐ Added in Laboratory ☐ Not Added ☐ Not Applicable



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

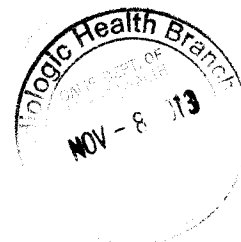
Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0762

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / SONGS B / 3rd Qtr 2013			
System No:		Billing Agency: RHB	Samples Received by Lab: 10/3/2013

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0762-01	Sample ID: R 94034	Time Collected: 10/1/2013 09:30	Sampling Point: Sheephead	
	Sample Type: Biota			
Dry Wt/Wet Wt		0.237		
K-40	HASL Ga-01-R	13.6 +/- 0.343	0.405	pCi/g dry wt



- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Drinking Water and Radiation Laboratory Branch  
850 Marina Bay Parkway, G164  
Richmond, CA 94804  
510-620-2911

Date Received

10-3-13

Lab No. (Leave Blank)

13-0762

Date &amp; Time Sampled

10-1-13 9:30

Serial Number

R 94034

## Collector Information

Name:

Dept./Branch:

Address:

RHM

Telephone No.:

## Sample Information

System Name / Facility:

Sampling Point (s):

Sonap B

System No.:

## Reporting Information

Name:

Dept./Branch:

Address:

Telephone No.:

## Billing Agency

☐ DWFOB ( )☐ RHB☐ RWQCB ( )☐ DTSC☐ DWTPB☐ FDB☐ DWR☐ CDFG☐ EMB☐ Other (Specify) \_\_\_\_\_

## TYPE OF SAMPLE (Check all applicable boxes)

☐ Drinking Water☐ Groundwater☐ Surface Water☐ Wastewater☐ Raw☐ Water Treatment Plant (WTP)☐ Distribution System☐ Point of Use (POU)☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted☐ Air Filters

Date/Time

☐ Seawater☐ Sludge (Semi-solid Samples)

Finishing: \_\_\_\_\_

☐ Milk☐ Soil/Sediment

Starting: \_\_\_\_\_

☐ Wipes☐ Biota (Type): SheepheadNet (M<sup>3</sup>) \_\_\_\_\_☐ Radon Canister☐ Other: \_\_\_\_\_☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_☐ Field Measurement: \_\_\_\_\_ mR/hr ☐ Radionuclide(s), if known: \_\_\_\_\_☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Gross Alpha☐ Gross Beta☐ Gamma Scan☐ Total Uranium☐ Total Beta (LSC)☐ NORM (Gamma)☐ Total Radium☐ Tritium (<sup>3</sup>H)☐ Isotopic Americium / Curium☐ Radium-226☐ Carbon-14☐ Isotopic Plutonium☐ Radium-228☐ Iodine-131☐ Isotopic Thorium☐ Radon-222☐ Strontium-89, 90☐ Isotopic Uranium☐ Other (Specify): \_\_\_\_\_☐ Nickel-63☐ Iron-55

## CHAIN OF CUSTODY

1.

Date

Name (Print)

Date

Time Custody Received

Organization

Signature

Time Custody Released

2.

Date

Name (Print)

Date

Time Custody Received

Organization

Signature

Time Custody Released

3.

Date

Name (Print)

Date

Time Custody Received

Organization

Signature

Time Custody Released

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

☐ Acceptable☐ Broken Container☐ Leaked in Transit☐ Improper Container☐ Holding Time Exceeded☐ Sample Not Cooled☐ Insufficient Sample

## B. Preservatives/Carriers:

☐ Added While Sampling☐ Added in Laboratory☐ Not Added☐ Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0271

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
		CDPH - RHB, 1500 Capitol Av., MS 7610	
SAN ONOFRE	CA	Sacramento	CA 95814-5006
Phone Number:		Phone Number:	916-440-7955
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/16/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0271-01	Sample ID: R 92398	Time Collected: 4/11/2013 10:33	Sampling Point: Cal Sheephead	
	Sample Type: Fish/Shellfish			
Dry Wt/Wet Wt		0.2386		
K-40	HASL Ga-01-R	16.3 +/- 0.391	0.520	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-16-13</b>	Lab No. (Leave Blank) <b>13-0271</b>
	Date & Time Sampled <b>4-11-13 10:33</b>	Serial Number <b>R 92398</b>
<b>Collector Information</b> Name: Dept./Branch: Address: <b>RHM</b> Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>San Onofre</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☒ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
Finishing: \_\_\_\_\_  
Starting: \_\_\_\_\_  
Net (M<sup>3</sup>) \_\_\_\_\_  
☐ Air Charcoal Cartridge
- ☐ Milk    ☐ Soil/Sediment  
☐ Wipes    ☐ Biota (Type): **Cat/Sheep**  
☐ Radon Canister    ☐ Other: \_\_\_\_\_

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

## CHAIN OF CUSTODY

- |    |                                   |                            |                              |                             |
|----|-----------------------------------|----------------------------|------------------------------|-----------------------------|
| 1. | Date _____                        | Name (Print) _____         | Signature _____              | Date _____                  |
|    | Time Custody Received _____       | Organization _____         |                              | Time Custody Released _____ |
| 2. | Date _____                        | Name (Print) _____         | Signature _____              | Date _____                  |
|    | Time Custody Received _____       | Organization _____         |                              | Time Custody Released _____ |
| 3. | Date <b>4-16-13</b>               | Name (Print) <b>UA</b>     | Signature <b>[Signature]</b> | Date _____                  |
|    | Time Custody Received <b>2:30</b> | Organization <b>DWR/LB</b> | Signature <b>[Signature]</b> | Time Custody Released _____ |

## LABORATORY REMARKS (Leave Blank)

## A. Condition at Time of Receipt:

- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |

## B. Preservatives/Carriers:

- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0273

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
		CDPH - RHB, 1500 Capitol Av., MS 7610	
SAN ONOFRE	CA	Sacramento	CA 95814-5006
Phone Number:		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/16/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0273-01	Sample ID: R 98802 Sample Type: Biota	Time Collected: 4/11/2013 10:20	Sampling Point: Cal Spiny Lobster	
Dry Wt/Wet Wt		0.2616		
K-40	HASL Ga-01-R	14.4 +/- 0.358	0.528	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Drinking Water and Radiation Laboratory Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-16-13</b>	Lab No. (Leave Blank) <b>130273</b>
	Date & Time Sampled <b>4-11-13 10:20</b>	Serial Number <b>R 98802</b>
<b>Collector Information</b> Name: Dept./Branch: <b>RHM</b> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: <b>San Onofre</b> Sampling Point (s): System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_    ☐ Milk    ☐ Soil/Sediment  
 Starting: \_\_\_\_\_    ☐ Wipes    ☐ Biota (Type): **Calif. Spiny**  
 Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: **lobster**  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha    ☐ Gross Beta    ☐ Gamma Scan  
☐ Total Uranium    ☐ Total Beta (LSC)    ☐ NORM (Gamma)  
☐ Total Radium    ☐ Tritium (<sup>3</sup>H)    ☐ Isotopic Americium / Curium  
☐ Radium-226    ☐ Carbon-14    ☐ Isotopic Plutonium  
☐ Radium-228    ☐ Iodine-131    ☐ Isotopic Thorium  
☐ Radon-222    ☐ Strontium-89, 90    ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_    ☐ Nickel-63    ☐ Iron-55

## CHAIN OF CUSTODY

- |    |                                   |                            |                           |
|----|-----------------------------------|----------------------------|---------------------------|
| 1. | Date _____                        | Name (Print) _____         | Date _____                |
|    | Time Custody Received _____       | Organization _____         | Signature _____           |
| 2. | Date _____                        | Name (Print) _____         | Date _____                |
|    | Time Custody Received _____       | Organization _____         | Signature _____           |
| 3. | Date <b>4-16-13</b>               | Name (Print) <b>VA</b>     | Date _____                |
|    | Time Custody Received <b>2:30</b> | Organization <b>DWR IB</b> | Signature <b>V. M. de</b> |
|    | Time Custody Received _____       | Organization _____         | Signature _____           |

## LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**  
☐ Acceptable    ☐ Broken Container    ☐ Leaked in Transit    ☐ Improper Container  
☐ Holding Time Exceeded    ☐ Sample Not Cooled    ☐ Insufficient Sample
- B. Preservatives/Carriers:**  
☐ Added While Sampling    ☐ Added in Laboratory    ☐ Not Added    ☐ Not Applicable





State of California - Health and Human Services Agency  
California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940

**FINAL Analysis Results Report for Task ID. 13-0272**

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
		Phone Number: 916-440-7955	
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/16/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0272-01	Sample ID: R 98801	Time Collected: 4/11/2013 09:30	Sampling Point: Cali Mussel	
	Sample Type: Fish/Shellfish			
Dry Wt/Wet Wt		0.1154		
K-40	HASL Ga-01-R	10.4 +/- 0.320	0.778	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Drinking Water and Radiation Laboratory Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-16-13</b>	Lab No. (Leave Blank) <b>13-0272</b>
	Date & Time Sampled <b>4-11-13 9:30</b>	Serial Number <b>R 98801</b>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Drinking Water  | <input type="checkbox"/> Groundwater                 | <input type="checkbox"/> Surface Water       | <input type="checkbox"/> Wastewater                         |
| <input type="checkbox"/> Raw   | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU)                 |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted |  |  |   |
| <input type="checkbox"/> Air Filters   | Date/Time  | <input type="checkbox"/> Seawater            | <input type="checkbox"/> Sludge (Semi-solid Samples)        |
| Finishing: _____   | _____  | <input type="checkbox"/> Milk                | <input type="checkbox"/> Soil/Sediment                      |
| Starting: _____  | _____  | <input type="checkbox"/> Wipes               | <input type="checkbox"/> Biota (Type): <b>Calif. Mussel</b> |
| Net (M <sup>3</sup> ) _____  | _____  | <input type="checkbox"/> Radon Canister      | <input type="checkbox"/> Other: _____                       |
| <input type="checkbox"/> Air Charcoal Cartridge  |  |  |   |

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- ☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

## CHAIN OF CUSTODY

- |    |                                   |                           |  |
|----|-----------------------------------|---------------------------|--|
| 1. | Date _____                        | Name (Print) _____        | Date _____                               |
|    | Time Custody Received _____       | Organization _____        | Signature _____                          |
| 2. | Date _____                        | Name (Print) _____        | Date _____                               |
|    | Time Custody Received _____       | Organization _____        | Signature _____                          |
| 3. | Date <b>4-16-13</b>               | Name (Print) <b>UA</b>    | Date _____                               |
|    | Time Custody Received <b>2:30</b> | Organization <b>DWRLB</b> | Signature <b>Victoria M. [Signature]</b> |
|    |                                   |                           | Time Custody Released _____              |

## LABORATORY REMARKS (Leave Blank)

- |  |  |  |   |
|--|--|--|---|
| <b>A. Condition at Time of Receipt:</b>        |  |  |   |
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container    | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled   | <input type="checkbox"/> Insufficient Sample |   |
| <b>B. Preservatives/Carriers:</b>              |  |  |   |
| <input type="checkbox"/> Added While Sampling  | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added           | <input type="checkbox"/> Not Applicable     |



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0245

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013		Phone Number: 916-440-7955	
System No:	Billing Agency: RHB	Samples Received by Lab: 4/5/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0245-01	Sample ID: R 92392 Sample Type: Biota	Time Collected: 4/3/2013 12:05	Sampling Point: Sand Bass	
Dry Wt/Wet Wt		0.2257		
K-40	HASL Ga-01-R	19.0 +/- 0.468	0.682	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>4-5-13</u>	Lab No. (Leave Blank) <u>13-0245</u>
	Date & Time Sampled <u>4-3-13 12:05</u>	Serial Number <u>R 92392</u>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Drinking Water   | <input type="checkbox"/> Groundwater                 | <input type="checkbox"/> Surface Water       | <input type="checkbox"/> Wastewater                           |
| <input type="checkbox"/> Raw  | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU)                   |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted |  |  |   |
| <input type="checkbox"/> Air Filters  | Date/Time  | <input type="checkbox"/> Seawater            | <input type="checkbox"/> Sludge (Semi-solid Samples)          |
| Finishing: _____  | _____  | <input type="checkbox"/> Milk                | <input type="checkbox"/> Soil/Sediment                        |
| Starting: _____   | _____  | <input type="checkbox"/> Wipes               | <input checked="" type="checkbox"/> Biota (Type): <u>Bald</u> |
| Net (M <sup>3</sup> ) _____   | _____  | <input type="checkbox"/> Radon Canister      | <input type="checkbox"/> Other: <u>Sand Bass</u>              |
| <input type="checkbox"/> Air Charcoal Cartridge   |  |  |   |

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- ☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_
- ☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

## CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date <u>4-5-13</u>	Name (Print) <u>UA</u>	Signature <u>Victoria M. Ali</u>	Date _____
	Time Custody Received <u>1:30</u>	Organization <u>DWRLB</u>		Time Custody Released _____

## LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**
- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |
- B. Preservatives/Carriers:**
- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|



State of California - Health and Human Services Agency

California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0244

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
		CDPH - RHB, 1500 Capitol Av., MS 7610	
SAN ONOFRE	CA	Sacramento	CA 95814-5006
Phone Number:		Phone Number:	916-440-7955
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/5/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0244-01	Sample ID: R 92391 Sample Type: Biota	Time Collected: 4/3/2013 12:00	Sampling Point: Californai Sheephead	
Dry Wt/Wet Wt		0.229		
K-40	HASL Ga-01-R	21.3 +/- 0.504	0.524	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-5-13</b>	Lab No. (Leave Blank) <b>13-0244</b>
	Date & Time Sampled <b>4-3-13 12:00</b>	Serial Number <b>R 92391</b>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>San Onofre</b>  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
Finishing: \_\_\_\_\_    ☐ Milk    ☐ Soil/Sediment  
Starting: \_\_\_\_\_    ☐ Wipes    ☒ Biota (Type): **Calif. Sheep head**  
Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: \_\_\_\_\_  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

## CHAIN OF CUSTODY

- |    |                                   |                           |                              |
|----|-----------------------------------|---------------------------|------------------------------|
| 1. | Date _____                        | Name (Print) _____        | Date _____                   |
|    | Time Custody Received _____       | Organization _____        | Signature _____              |
| 2. | Date _____                        | Name (Print) _____        | Date _____                   |
|    | Time Custody Received _____       | Organization _____        | Signature _____              |
| 3. | Date <b>4-5-13</b>                | Name (Print) <b>UA</b>    | Date _____                   |
|    | Time Custody Received <b>1:30</b> | Organization <b>DWRIB</b> | Signature <b>[Signature]</b> |
|    |                                   |                           | Time Custody Released _____  |

## LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:
- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |
- B. Preservatives/Carriers:
- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|

## Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. 13-0246

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
		CDPH - RHB, 1500 Capitol Av., MS 7610	
SAN ONOFRE	CA	Sacramento	CA 95814-5006
Phone Number:		Phone Number:	916-440-7955
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013			
System No:	Billing Agency: RHB	Samples Received by Lab: 4/5/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0246-01	Sample ID: R 92393 Sample Type: Biota	Time Collected: 4/3/2013 09:45	Sampling Point: Spiny Lobster	
Dry Wt/Wet Wt		0.2690		
K-40	HASL Ga-01-R	6.81 +/- 0.238	0.672	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-5-13</b>	Lab No. (Leave Blank) <b>13-0246</b>
	Date & Time Sampled <b>4-3-13 9:45</b>	Serial Number <b>R 92393</b>
<b>Collector Information</b> Name: Dept./Branch: <b>RHM</b> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>San Diego</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_    ☐ Milk    ☐ Soil/Sediment  
 Starting: \_\_\_\_\_    ☐ Wipes    ☐ Biota (Type): **Cal spiny lobster**  
 Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: \_\_\_\_\_  
☒ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha    ☐ Gross Beta    ☐ Gamma Scan  
☐ Total Uranium    ☐ Total Beta (LSC)    ☐ NORM (Gamma)  
☐ Total Radium    ☐ Tritium (<sup>3</sup>H)    ☐ Isotopic Americium / Curium  
☐ Radium-226    ☐ Carbon-14    ☐ Isotopic Plutonium  
☐ Radium-228    ☐ Iodine-131    ☐ Isotopic Thorium  
☐ Radon-222    ☐ Strontium-89, 90    ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_    ☐ Nickel-63    ☐ Iron-55

## CHAIN OF CUSTODY

- |    |                                   |                           |                              |
|----|-----------------------------------|---------------------------|------------------------------|
| 1. | Date _____                        | Name (Print) _____        | Date _____                   |
|    | Time Custody Received _____       | Organization _____        | Signature _____              |
| 2. | Date _____                        | Name (Print) _____        | Date _____                   |
|    | Time Custody Received _____       | Organization _____        | Signature _____              |
| 3. | Date <b>4-5-13</b>                | Name (Print) <b>UA</b>    | Date _____                   |
|    | Time Custody Received <b>1:30</b> | Organization <b>DWRLB</b> | Signature <b>[Signature]</b> |
|    |                                   |                           | Time Custody Released _____  |

## LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**  
☐ Acceptable    ☐ Broken Container    ☐ Leaked in Transit    ☐ Improper Container  
☐ Holding Time Exceeded    ☐ Sample Not Cooled    ☐ Insufficient Sample
- B. Preservatives/Carriers:**  
☐ Added While Sampling    ☐ Added in Laboratory    ☐ Not Added    ☐ Not Applicable





Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0247

Investigator: RHM	RHB	Requestor: Roger Lupo	RHB
SAN ONOFRE CA		CDPH - RHB, 1500 Capitol Av., MS 7610	
Phone Number:		Sacramento CA 95814-5006	
Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013		Phone Number: 916-440-7955	
System No:	Billing Agency: RHB	Samples Received by Lab: 4/5/2013	

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0247-01	Sample ID: R 92394 Sample Type: Biota	Time Collected: 4/3/2013	09:15	Sampling Point: California Mussel
Dry Wt/Wet Wt		0.1451		
K-40	HASL Ga-01-R	23.7 +/- 0.646	1.15	pCi/g dry wt

- (1) Precision criteria for these method were determined to be acceptable.
- (2) CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.
- (3) MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 divided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

## REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4-5-13</b>	Lab No. (Leave Blank) <b>13-0247</b>
	Date & Time Sampled <b>4-3/13 9:15</b>	Serial Number <b>R 92394</b>
<b>Collector Information</b> Name: Dept./Branch: <b>RHM</b> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>San Diego</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

## TYPE OF SAMPLE (Check all applicable boxes)

- ☐ Drinking Water    ☐ Groundwater    ☐ Surface Water    ☐ Wastewater  
☐ Raw    ☐ Water Treatment Plant (WTP)    ☐ Distribution System    ☐ Point of Use (POU)  
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- ☐ Air Filters    Date/Time    ☐ Seawater    ☐ Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_    ☐ Milk    ☐ Soil/Sediment  
 Starting: \_\_\_\_\_    ☐ Wipes    ☐ Biota (Type): **Cal. mussel**  
 Net (M<sup>3</sup>) \_\_\_\_\_    ☐ Radon Canister    ☐ Other: \_\_\_\_\_  
☐ Air Charcoal Cartridge

## COMMENTS: (Cautions, etc.):

- ☐ Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
☐ Field Measurement: \_\_\_\_\_ mR/hr    ☐ Radionuclide(s), if known: \_\_\_\_\_  
☐ Rush/Priority (should be prearranged and have supervisory approval)

## ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- ☐ Gross Alpha    ☐ Gross Beta    ☐ Gamma Scan  
☐ Total Uranium    ☐ Total Beta (LSC)    ☐ NORM (Gamma)  
☐ Total Radium    ☐ Tritium (<sup>3</sup>H)    ☐ Isotopic Americium / Curium  
☐ Radium-226    ☐ Carbon-14    ☐ Isotopic Plutonium  
☐ Radium-228    ☐ Iodine-131    ☐ Isotopic Thorium  
☐ Radon-222    ☐ Strontium-89, 90    ☐ Isotopic Uranium  
☐ Other (Specify): \_\_\_\_\_    ☐ Nickel-63    ☐ Iron-55

## CHAIN OF CUSTODY

- |    |                                   |                            |                                |                             |
|----|-----------------------------------|----------------------------|--------------------------------|-----------------------------|
| 1. | Date _____                        | Name (Print) _____         | Signature _____                | Date _____                  |
|    | Time Custody Received _____       | Organization _____         |                                | Time Custody Released _____ |
| 2. | Date _____                        | Name (Print) _____         | Signature _____                | Date _____                  |
|    | Time Custody Received _____       | Organization _____         |                                | Time Custody Released _____ |
| 3. | Date <b>4-5-13</b>                | Name (Print) <b>UA</b>     | Signature <b>Victor M. Ali</b> | Date _____                  |
|    | Time Custody Received <b>1:30</b> | Organization <b>DWR/LB</b> |                                | Time Custody Released _____ |

## LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:**  
☐ Acceptable    ☐ Broken Container    ☐ Leaked in Transit    ☐ Improper Container  
☐ Holding Time Exceeded    ☐ Sample Not Cooled    ☐ Insufficient Sample
- B. Preservatives/Carriers:**  
☐ Added While Sampling    ☐ Added in Laboratory    ☐ Not Added    ☐ Not Applicable